

On Differences in Kind Readings

Bears, cars and planes (and bottles)

Definiteness across Domains, 4th Network meeting

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Green Bottles and Coke Bottles

Carlson (1977) reports: Well-establishedness of a kind is grammatically relevant

- (1) a. **The Coke bottle has a narrow neck.**
⇒ kind reference possible/generic sentence (Partee)
- b. ??**The green bottle has a narrow neck.**
⇒ kind reference impossible/no generic sentence
- Krifka et al. (1995): 'Coke bottle' is a well-established kind, 'green bottle' is not. An effect of **familiarity**?
 - Carlson's (2006) criticism: Familiarity is not defined precisely. There is no obvious relation to frequencies. Green bottles are more frequent than Coke bottles. Coke bottles were (light) green in earlier times when the example was discussed. We should be more familiar with green bottles than with Coke bottles: **No frequency**.

Map of the talk

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Relate the findings to well-establishedness of kinds.

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- **Step1:** Report on differences in recognition performance: there are differences in word recognition and object recognition that may be related to object frequency and conceptual distinctiveness. [Iconic flavor of word meaning]
- **Step2:** Try to reproduce the differences in grammar: kind interpretation/weak definites/nominal modification.
- **Step 3: Proposal:** a mixed approach: **car** is property denoting (high object frequency) and **airplane** maybe kind denoting (low object frequency/low distinctiveness).

Frequency and how we perceive things matters

Cars (mess, many) and Planes (no mess, only one)



Frequency and how we perceive things matters

Cars (mess, many) and Planes (no mess, only one)



Sources:

<https://pixabay.com/de/photos/flugzeug-fliegend-flughafen-reisen-4885805/>

<https://pixabay.com/de/photos/auto-stopper-auto-traffic-jam-urban-4522805/>

Psychology

preprint Version 1 Gregorová et al. (2021: p. 25), Gregorová et al. (2023)

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- Precondition: **Domain-general view** on semantic representation (= semantic representation of word forms does not differ from the visual representation of objects), semantic representation is a basic notion.

Psychology: Recognition performance

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- **Surprising finding:** **Low object frequency** in the image data sets seems to enhance recognition times.

Conceptual Distinctiveness: Semantic memory

Konkle et al. (2010), Gregorová et al. (2021), Jacopo Turini p.c.

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- Conceptual Distinctiveness is a measure of memorability. The higher CD the lower the memorability/recognition.

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- Conceptual Distinctiveness is a measure of memorability. The higher CD the lower the memorability/recognition.
- **High Conceptual Distinctiveness** (=many subcategories, wide categories) makes it more difficult to remember an object.
Low Conceptual Distinctiveness (=almost no subcategories, narrow categories) makes it easier to remember an object from that category.

Conceptual Distinctiveness matters

Cars (high CD) and Planes (low CD)



Sources:

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How we perceive things matters

Green bottles (many subcategories) and Coke bottles (almost no subcategories)



How we perceive things matters

Green bottles (many subcategories) and Coke bottles (almost no subcategories)



The Iconic Flavor of Nouns

An iconic mapping is defined as a resemblance between properties of linguistic form and meaning (Perniss & Vigliocco 2014):

not pure convention.

- **Hypothesis:** The semantic type of some expressions is iconically motivated (a difference in how (often) we perceive objects in a typical scene and how different they look).
- **What follows:** (a) There are differences in the type of kind readings of nouns dependent on how they look. (b) There are differences in modification patterns. Modification should decrease the number of objects that fall under a concept. Higher probability for modified expressions to get a kind reading. (c) There are differences in weak definite readings.

Natural Kinds: Uses of count nouns

Krifka (2004) and Dayal (2004)

- Reference to **objects**: specimen referring use
- Reference to **sum-individuals**: regular kind referring use
- Reference to **sub-kinds**: name-like use I: “taxonomic” reading
- Reference to **group-individuals**: name-like use II: atomic kind referring use

- Expressions referring to natural kinds like **bear** have the full semantic spectrum.

And now to cars and airplanes ...

use	Bär	Flugzeug	Auto
specimen	✓	✓	✓
regular kind	✓	✓	✓
sub-kind	✓	✓	✗
atomic kind	✓	✓	✗

- No name-like use for **Auto** 'car': i.e., no taxonomic readings and no atomic kind readings, but regular kind readings
- **Flugzeug** 'airplane' patterns with **Bär** 'bear'.

Count nouns: Specimen-referring use

Krifka et al. (1995) and Krifka (2004)



(2) Typical use: **reference to exemplars**.

[[Two bears₁ are in the garden]]^{s*}

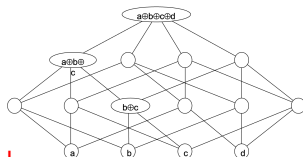
= ∃x [BEAR(s*)(2)(x) & IN_GARDEN(s*)(x)]

- The extensions of count nouns are analyzed as relations between cardinalities and individuals (i.e., measure functions). Plural marking is a morpho-syntactic effect by number words and determiners, not a semantic one (Krifka 2004: p. 192), except for characterizing sentences with bare plurals: properties.

(3) [[bear₁]]^s = λn.λx.⊢BEAR(s)(n)(x)⊣ = BEAR type *d(et)*

Count nouns: “regular” kind-referring use

Krifka et al. (1995) and Krifka (2004)



- (4) Typical use: **reference to a sum-individual**
 $\llbracket \text{Bears}_1 \text{ will become extinct in 2150.} \rrbracket^{s^*} =$
 $\text{EXTINCT_IN_2150}(s^*)(\lambda s.\iota[\lambda x.\exists n[\text{BEAR}(s)(n)(x)]])$
- Kind predicates like **extinct** may trigger an intensional embedding (Krifka 2004: p. 192). The count noun is type-shifted from a property to an individual concept (type *(se)*): a function from a situation to the maximum element that satisfies the property (all the bears in that situation). The plural is semantic in this case (introduction of the existential operator over numbers n).
- (5) **Typeshift:** $P \rightarrow \lambda s.\iota[P(s)]$ (**regular kind**)

Count nouns: name-like use I

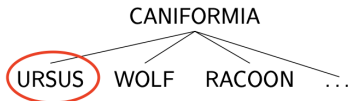
Krifka et al. (1995)



- (6) Typical use: **reference to sub-kinds**
- There are two bears₂ in Alaska, the black bear and the grizzly.
 - There are two Johns in my class, John Smith and John Miller.
- In the name-like use, a count noun may get a **taxonomic reading**. A similar use is found with proper nouns in the plural.
- (7)
- $\llbracket \text{bear}_2 \rrbracket^s = \lambda n. \lambda k. \vdash \text{BEARKIND}(s)(n)(k) \dashv \text{type } \underline{d(et)}$
 - $\llbracket \text{two} \rrbracket^s = 2$
 - $\llbracket \text{two bears}_2 \rrbracket^s = \lambda k. \vdash \text{BEARKIND}(s)(2)(k) \dashv \text{type } (\underline{et})$
if the domain of quantification does not contain subspecies or other bear specimen.

Count nouns: name-like use II

following Krifka et al. (1995) and Krifka (2004),
Dayal (2004)



(8) Typical use I: **reference to atomic kinds** (Carlson's test).

a. The bear₂ is a kind of animal.

b. The bear₂ is so called because it is brown.

- In the name-like use, they occur with a definite article (name-like use of definites, see the overview in Meier2021; def. article as in **The Earth**), or as bare singulars Dayal (2004).

(9) a. $\llbracket \text{bear}_2 \rrbracket^s = \lambda n. \lambda k. \vdash \text{BEARKIND}(s)(n)(k) \vdash$ type $d(et)$

b. $\llbracket \text{the} \rrbracket^s = \lambda P. \iota x [P(s)(1)(x)]$

c. $\llbracket \text{the bear}_2 \rrbracket^s = \llbracket \text{Ursus} \rrbracket^s = \text{URSUS}$ type (e)

if the domain of quantification does not contain
subspecies or other bear specimen.

Cars and Planes: name-like use: Taxonomic reading

Indefinites

- (10) a.??? **In Bayern werden zwei Autos produziert: der BMW und der Audi.**
'Two cars are produced in Bavaria: the BMW and the Audi.'
- b. **Die Schweiz hat zwei Flugzeuge: den Tiger und die FA-18.**
'Switzerland has two airplanes: the Tiger and the FA-18.'
- **Auto** does not easily get a kind reading in combination with numerals: no taxonomic reading?
 - No such restrictions for **Flugzeug**.
 - Repair: **Automarke/-typ** instead of **Auto**.

Cars and Planes: name-like use: Atomic kind I

Definite descriptions

- (11) a. ?Das **Auto** wird so genannt, weil es sich selbst bewegen kann.

'The car is so called because it moves by itself.'

- b. Das **Flugzeug** wird so genannt weil es fliegen kann.

'The airplane is so called because it can fly.'

- No kind-reference by **das Auto** 'the car'? There seems a (small) difference in the availability of the **so called**-construction between **Auto** and **Flugzeug**.
- Repair: **Automobil** instead of **Auto** (Paul Koenig, p.c.)
- Distraction **Flieger** instead of **Flugzeug** (Paul Koenig, p.c.).

Cars and Planes: name-like use: Atomic kind II

A kind of/eine Art

- (12) a. ?Das Auto ist eine Art Transportmittel.
'The car is a kind of means of transport.'
- b. Das Flugzeug ist eine Art Transportmittel.
'The airplane is a kind of means of transport.'
- There seems a small difference in the interpretation of the a kind of construction.
 - With **das Auto**, **eine Art** triggers a **hedging interpretation** (Umbach:2021). The speaker seems to be reluctant to call a car a means of transport, in fact, quite the opposite.
 - Repair: **Automobil** instead of **Auto**.

Cars and Planes: name-like use: Atomic kind III

Bare singulars

(13) a.??? **Der Smart ist eine Art Auto.**

'The Smart is a kind of car.'

b. **Die FA-18 ist eine Art Flugzeug.**

'The FA-18 is a kind of airplane.'

- **Auto** may not be used as a bare singular in the kind-of construction, contrary to **Flugzeug**.
- With **der Smart, eine Art Auto**, predominantly gets a **hedging interpretation**. The speaker does not want to call a Smart a car. No problem to get the kind interpretation for **Flugzeug**. Repair: **Automobil** instead of **Auto**.

Cars and Planes: name-like use: Ad-hoc kind

Mendia:2020: Ad-hoc kind with demonstratives

- (14) a. **Bill reiste mit dieser Art** [pointing to a car specimen] **Transportmittel**.
- b. **Bill reiste mit dieser Art** [pointing to an airplane specimen] **Transportmittel**.
'Bill travelled with this kind [pointing] of means of transport.'
- **Ad hoc kind formation** using a demonstrative only with **Flugzeug** not with **Auto**. Pointing to a car in (14a) generates a **sub-kind of car** not the kind named **Auto**. (14b) does not have this effect.
 - **Suggestion: Auto** might not refer to a kind: no high probability of uniqueness in a typical situation of occurrence?

Cars and Planes: name-like use: Kind modification

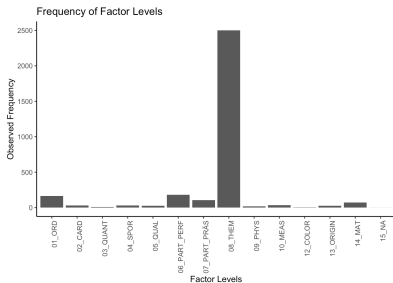
Modification by adjectives of origin/thematic adjectives, see also [McNallyBoleda](#)

- (15) a. **ein japanisches Auto** (ad hoc kind formation)
'cars of a japanese brand'
- b. **ein japanisches Flugzeug** (kind modification)
'airplanes that belong to Japan'

- With **Auto** we use adjectives of origin as **intersective adjectives**: intersection may lead to a kind referring reading (lower object frequency, smaller set of individuals, car brand).
- With **Flugzeug** we use adjectives of origin as **relational adjective** contributing the possessor (compare to **the italian invasion**, **italian** contributes the agent in this nominalization)

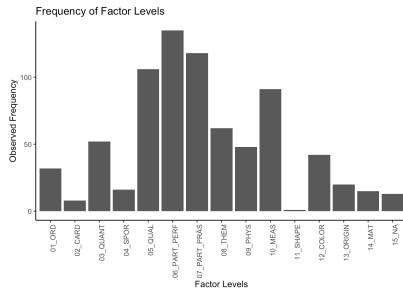
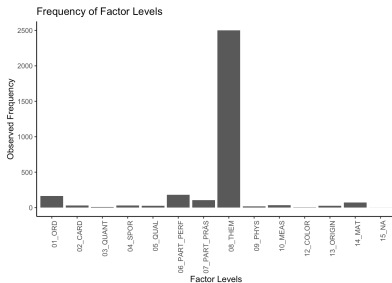
Evidence from Entropy

There are differences in modification patterns in written corpora:



Evidence from Entropy

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Cars and Planes: name-like use: Well-established kind

Readings as weak definites

- (16) a. **Wir nehmen das Auto.** ('specific')
'We take the car.'
- b. **Wir nehmen das Flugzeug.** ('free choice')
'We take the airplane.'
- **Taking the car** means 'taking his own car' (a specific object, unique in the situation, relational)
 - **Taking the airplane** means 'taking some airplane or other' (an non-specific instance of a kind)
 - Only the latter is a weak definite (see also Schwarz 2014): weak definites are only possible for well-established kinds.

More Evidence: Carlson's disjointness condition

Wilkinson (1995)

- There are objects that may count as cars, **Auto**, and as busses, **Bus**, at the same time. **Auto** 'car' contradicts Carlson's disjointness condition.

(17) **Der VW-Bus ist ein Transportmittel vom Typ 'Auto'.**
'The VW bus is a means of transportation of the type of a car.'

- This may count as evidence that **Auto** is not a (well-established) kind: What is called **Auto** and what is called **Bus** may **overlap** in non-expert talk.

Cars and Planes: regular kind

Intensional kind predicates

- (17) a. **Carl Benz erfand das Auto.**
'Carl Benz invented the car.'
- b. **Die Gebrüder Wright erfanden das Flugzeug.**
'The Wright brothers invented the airplane.'
- **No difference** in the availability of the generic readings for definites with the nouns **Auto** and **Flugzeug**.
 - This kind of generic reading may be a derived one, though Krifka (2004): **invent** is an intensional/opaque environment.
 - **Both nouns may shift**: a case of a **regular kind** reading with a kind predicate.

Proposal: airplanes: Genuine Ambiguity

1 Measure function:

$$\llbracket \text{Flugzeug}_1 \rrbracket^s = \lambda n. \lambda x. \vdash \text{AIRPLANE}(s)(n)(x) \dashv = \text{AIRPLANE}$$

1^k Regular kind (type shifting):

$$\llbracket \text{das Flugzeug}_1 \rrbracket^s = \lambda s. \iota [\lambda x. \exists n [\text{AIRPLANE}(s)(n)(x)]]$$

2 Taxonomic measure function:

$$\llbracket \text{Flugzeug}_2 \rrbracket^s = \lambda n. \lambda k. \vdash \text{AIRPLANEKIND}(s)(n)(k) \dashv$$

2^k Atomic kind (using definite article):

$$\llbracket \text{das Flugzeug}_2 \rrbracket^s = \iota [\lambda k. \vdash \text{AIRPLANEKIND}(@)(1)(k)] \dashv$$

(= well-established kind, rigid)

Proposal: cars: Just Type-Shifting

1 Measure function:

$$\llbracket \mathbf{Auto} \rrbracket^s = \lambda n. \lambda x. \vdash \mathbf{CAR}(s)(n)(x) \dashv = \mathbf{CAR}$$

1^k Regular kind:

$$\llbracket \mathbf{das Auto} \rrbracket^s = \lambda s. \iota [\lambda x. \exists n [\mathbf{CAR}(s)(n)(x)]]$$

Interim Conclusion

- Meanings of count nouns referring to artefacts are less homogeneous than expected.
- The two types of semantic representation found in psychological research may reflect the two uses of definite descriptions: atomic kind reading/taxonomic reading vs. specimen-referring use.
- Prediction: The availability of a name-like use (atomic kind/sub-kinds) may speed up recognition.
- Visual perception of particular objects (in particular how often they occur or their distinctiveness?) and grammatical properties of nouns referring to these objects correlate: **a case of iconicity**.
- Reason for the difference: The spectrum in semantic types may be an effect of the relevant **alternatives** available in normal scenes: uniqueness in a scene and prototype similarity may play a role.

Count nouns: Specimen-referring use

Krifka et al. (1995) and Krifka (2004): **reference to objects**

$$(18) \quad \llbracket \text{Two bottles}_1 \text{ contain Coca-Cola} \rrbracket^{s^*} \\ = \exists x [\text{BOTTLE}(s^*)(2)(x) \ \& \ \text{CCC}(s^*)(x)]$$

$$(19) \quad \llbracket \text{bottle}_1 \rrbracket^s \\ = \lambda n. \lambda x. \vdash \text{BOTTLE}(s)(n)(x) \dashv = \text{BOTTLE} \quad \text{type } \underline{d(et)}$$

(20) **No difference**

- a. Two green bottles contain Coca-Cola.
- b. Two Coke bottles contain Coca-Cola.
- c. Two bottles lying in the backyard contain Coca-Cola.

Count nouns: “regular” kind-referring use

Krifka et al. (1995) and Krifka (2004): **reference to a sum-individual**

- (21) **Bottles₁ were invented in Mesopotamia around 1500 B.C.**
- (22) **No difference**
- #Green bottles were invented (“Color is insignificant for classification”
<https://sha.org/bottle/colors.htm>)
 - Green bottles have been a great contribution to the preservation of olive oil. (p.c. Louise McNally)
 - Coke bottles were created in 1915 by Earl R. Dean.

Count nouns: name-like use I

Krifka et al. (1995): **reference to sub-kinds**

- (23)
- a. There are two bottles₂ used for drinks around 1900, the **Coke bottle** and the **Woozy bottle**.
 - b. There are two bottles₂ produced in the America of the 17th century, the **green bottle** and the **brown bottle**.
 - c. There are two bottles₂ used for beer nowadays, the **green bottle** and the **brown bottle**.
- **Bottle** has a name-like use. It allows for a **taxonomic reading**, but only if we narrow down the variability in the appearance.

Count nouns: name-like use I with modification

Krifka et al. (1995): **reference to sub-kinds**

- (24) “Coke bottles” and “green bottles” may get sub-kind readings: ad hoc?
- a. There are two Coke bottles₂ used for Coca-Cola nowadays, the green Coke bottle and the clear Coke bottle.
 - b. #There are several green bottles₂ produced in the America nowadays, the one for medical liquids, the one for beer,

Count nouns: name-like use II: definiteness

following Krifka et al. (1995) and Krifka (2004),

Dayal (2004): **reference to atomic kinds** (Carlson's test)

- (25)
- a. The bottle₂ is a kind of container.
 - b. 'Bottle' derives from Latin 'buttis' (engl. cask) and the bottle₂ is so called because it is similar to a little cask.

Count nouns: name-like use II

following Krifka et al. (1995) and Krifka (2004),

Dayal (2004): **reference to atomic kinds** (Carlson's test)

- (26) a. #The green bottle₂ is a kind of container.
b. #The green bottle₂ is so called because it is similar to a little green cask.
- (27) a. The Coke bottle₂ is a kind of container.
b. The Coke bottle₂ is so called because it was designed to protect the brand Coca-Cola.

→ **green bottle** is a property, **Coke bottle** is a (well-established) kind.

Interim Conclusion

- The Coke bottle became iconic, the green bottle is not: It is possible to relate iconicity in linguistics (resemblance between form and meaning) to Cultural Iconicity (Existence of a representative).
- **Bottle** seems to behave like **Flugzeug**: Ambiguity. But it may lose this ambiguity if the context is too lax: ad hoc kind?.
- There are different types of kind formation. Generic sentences require the atomic kind reading.
- **Green bottle** has a changing nature: if **green** is relational then it may contribute to sub-kind formation.
- **Coke bottle** has an atomic kind reading.

Old bottles



Sources: <https://sha.org/bottle/>: Historic glass bottle identification ...

Thank you!

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Carlson, Greg N. 1977. Reference to kinds in English. University of Massachusetts dissertation.



Carlson, Greg N. 2006. Generics and concepts. University of Rochester.



Dayal, Veneeta. 2004. Number Marking and (in)Definiteness in Kind Terms. Linguistics and Philosophy 27(4). 393–450.



Gregorová,

Klara, Jacopo Turini, Benjamin Gagl & Melissa Le-Hoa Võ. 2021.

Access to meaning from visual input: Object and word frequency effects
Version 1. Frankfurt University.



Gregorová, Klara, Jacopo Turini, Benjamin Gagl &

Melissa Le-Hoa Võ. 2023. Access to meaning from visual input: object and word frequency effects in categorization behavior.

Journal of experimental psychology General Online Publication.



Konkle, Talia, Timothy F. Brady, George A. Alvarez &

Aude Oliva. 2010. Journal of experimental psychology: general.

[Conceptual distinctiveness supports detailed visual long-term memory for real-world objects 139\(3\). 558–578.](#)



Krifka, Manfred. 2004. Bare NPs: Kind-referring, Indefinites, Both, or Neither? In Rob Young & Yuping Zhou (eds.), [Proceedings of semantics and linguistic theory \(salt\) 13](#), 180–203. Cornell U: CLC Publication.



Krifka, Manfred, F. Jeffrey Pelletier, Greg Carlson, Alice G. B. ter Meulen, Gennaro Chierchia & Godehard Link. 1995. Genericity: An Introduction. In Greg Carlson & F. Jeffrey Pelletier (eds.), [The Generic Book](#), 1–124. Chicago: The University of Chicago Press.



Perniss, Pamela & Gabriella Vigliocco. 2014. The bridge of iconicity: from a world of experience to the experience of language. [Philosophical Transactions of The Royal Society B Biological Sciences 369\(1651\)](#).



Schwarz, Florian. 2014. How weak and how definite are weak definites? In Ana Aguilar-Guevara, Bert Le Bruyn &

Joost Zwarts (eds.), Weak referentiality (Linguistik Aktuell/Linguistics Today 219). John Benjamins Publishing Company.



Wilkinson, Karina. 1995. The Semantics of the Common Noun Kind. In Greg Carlson & F. Jeffrey Pelletier (eds.), The Generic Book, 383–397. Chicago: The University of Chicago Press.